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# Annual Report 1973

MISSOURI STATE HIGHWAY COMMISSION

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## Missouri State Highway Commission

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*Springfield*

A. C. Riley, *Vice-Chairman*

*New Madrid*

Lynn W. Bauer, *Member*

*Kansas City*

Daniel W. Duncan, *Member*

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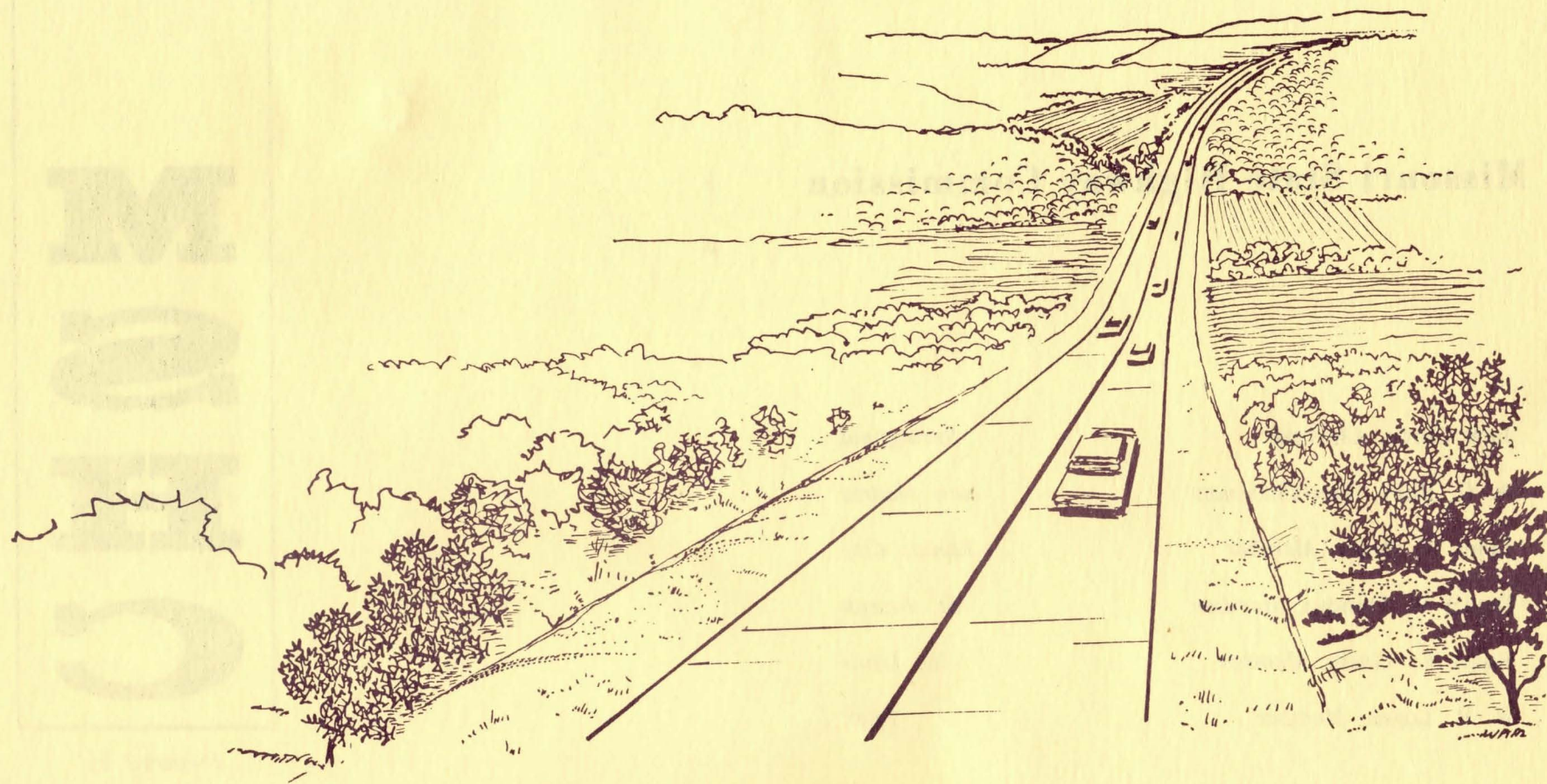
W. R. Logan, *Member*

*Silex*

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*Prepared by*

*Public Information Division*





# Foreword

This report of the Missouri State Highway Commission covers the activities, work accomplished, receipts and expenditures of the Commission and the State Highway Department during the 1973 calendar year.

The facts are presented in a style meant to provide easy access to statistical material, and the narrative information briefly covers the general functions of the various divisions within the Highway Department.

In the conduct of all of its activities, the Commission relies upon an informed, interested

public for the operation and development of the state's highway program. Because of this, copies of this report are available to the press and all interested public officials and citizens insofar as published copies permit. As required by law, the report is being sent to the Governor. Members of the General Assembly will also receive copies.

The Commission hopes the material will help increase general understanding of Missouri's highway administration.

Inquiries relating to this information will, of course, be welcomed by the Commission.

# Income

The chart on the opposite page indicates the various sources of Highway Department income for 1973.

Unquestionably the most pressing problems encountered during the year were those generated by uncertainties in federal funding. Actual apportionments from the Federal Highway Administration were down from earlier estimates based on previous allotments. Total federal aid reimbursements for the year amounted to \$74,872,324.07, down \$35,518,044.35 from the previous year.

As has always been the case, however, highway users supplied the major portion of funds used to finance the state's highway program. Fortunately, this was the first full year of Department operation under the new two-cents-a-gallon increase in gasoline tax which went into effect in the summer of 1972. As a result, motor fuel tax receipts showed an increase of \$39,901,956.28.

Total receipts from all sources for the year were \$350,957,572.60. This was an increase of \$19,443,864.77 over the previous year.



**BASIC REVENUE:**

Motor Vehicle License	\$ 89,911,054.27
Motor Bus & Truck Fees	\$ 1,775,518.00
Motor Fuel Tax Receipts	\$ 163,844,307.37
Motor Vehicle Use Tax	\$ 9,282,950.14
Drivers' License Fees	\$ 4,624,913.64
Motor Vehicle Inspection Fees	\$ <u>1,688,260.00</u>

\$ 271,127,003.42

**INCIDENTAL RECEIPTS:**

Sale of Blue Prints	\$ 50,066.14
Refunds - Highway Fund	\$ 46,155.87
Refunds - Road Fund	\$ 4,523,346.99
Civil Subdivision Refund	\$ <u>338,676.11</u>

\$ 4,958,245.11

**FEDERAL AID REIMBURSEMENT**

\$ 74,872,324.07

21.33%

**TOTAL RECEIPTS**

\$ 350,957,572.60

# Disbursements

Total disbursements for the period were \$335,957,989.45, up some \$28,692,543.48 from the 1972 figure.

As always, most of Missouri's highway dollars were spent on the construction and maintenance of highways during the year.

Construction costs came to \$210,144,465.87, an increase from the previous year of \$14,930,940.24. Much of this was possible due to the increased gas tax. Also, in spite of the vagaries attendant upon federal funding, the Department was most fortunate in being able to utilize all federal monies that were available. This was made possible because previous close attention to projects through their preliminary

engineering and right-of-way phases had assured their readiness for advertising as soon as, and if, funding should become available.

It should also be noted that a steadily increasing percentage of all highway funds must be devoted to maintaining the state's highway system. Relentlessly rising maintenance costs pushed the 1973 maintenance expenditures to an all-time high of \$70,884,590.56.

As usual, Highway Department administration costs constituted only a small per cent of total expenditures in 1973. For the year, administration costs came to less than four per cent of all money spent.



FEDERAL AID  
CONSTRUCTION

\$ 74,872,324.07  $\nearrow$  35.64%  
\$ 210,144,465.87

MAINTENANCE

\$ 70,884,590.56

ADMINISTRATION

\$ 12,493,023.79

GAS TAX REFUNDS

\$ 8,631,187.05

OTHER STATE DEPARTMENTS

\$ 33,804,722.18

TOTAL DISBURSEMENTS

\$ 335,957,989.45

## Accounting

All financial transactions of the State Highway Commission are processed and recorded by the Division of Accounting.

The Division processed a total of 175,127 checks and disbursed \$335,957,989.45 during the 1973 calendar year. These figures cover salaries, contractor payments, operating expenses of the Highway Department and fund transfers to cover tax collection expense.

There were 772 Workmen's Compensation cases

processed during the year.

The Division also made several procedural changes during the year to improve operations. Included were (1) a simplification of the method of securing a replacement check for one which had been lost or destroyed; (2) an increase in the number of times commercial invoices are processed in order to expedite payments to vendors; (3) a simplification of methods used to close fiscal year accounts; and (4) a revision of inventory procedures.

## Division Reports

### Bridges

The Division of Bridges is responsible for design engineering on all highway bridges and grade separation structures.

During the year designs were completed and contracts let in the regular manner for 108 new structures. Of this number, 17 were for the supplementary system routes.

The total length of all new structures contracted

for during 1973 amounted to 23,080 feet at a cost of \$26,396,396.27. Of these amounts, 3,445 feet, costing \$3,008,157.20 were for the supplementary routes.

Thirty-two designs were also prepared for repairing, widening or extending existing structures by contract at a cost of \$9,651,435.89.



# Construction

The Construction Division is responsible for the supervision and fiscal control of all construction contracts from time of contract award until the contract work has been accepted by the Commission and final payment made to the contractor.

Awards were made on 335 construction projects in 1973. This represents 1,935 miles of road construction. Thirty-eight projects included federal aid, while 297 projects were financed entirely by state funds. The money value of the awards, including engineering and non-contractual costs, totaled \$205 million. The breakdown is as follows:

Approximately 62 million dollars for the Interstate system.

Approximately 118 million dollars for the Primary system.

Approximately 21 million dollars for the Supplementary system.

Approximately 4 million dollars for non-contractual costs.

Total = 205 million dollars.

The Interstate system contracts involved new construction, upgrading existing dual facilities to Interstate standards, rest areas, highway beautification and implementing the latest safety features. Approximately 32 miles were completed to Interstate standards this year. There are now under construction approximately 109 miles of Interstate road. Missouri has 925 miles of Interstate roads up to Interstate standards and an additional 36 miles of Interstate roads in use as a dual facility but not up to the full standard.

The Primary and Supplementary System contracts include costs of construction work in rural and urban areas and projects financed either with federal aid or with one-hundred per cent state funds. They include new construction, bridge replacements, widening, and highway beautification projects. Where applicable the latest safety features were included.

## ACTIVE PROJECTS AS OF DECEMBER 31, 1973 AND YEAR CONTRACTED

System	1969	1970	1971	1972	1973	Totals
FEDERAL AID						
<i>Interstate</i>	<i>1</i>	<i>0</i>	<i>5</i>	<i>24</i>	<i>20</i>	<i>50</i>
<i>Primary</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>8</i>	<i>6</i>	<i>15</i>
<i>Supplementary</i>	<i>0</i>	<i>0</i>	<i>2</i>	<i>19</i>	<i>6</i>	<i>27</i>
Sub-Total	1	0	8	51	32	92
100% STATE						
<i>Interstate</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>4</i>	<i>5</i>
<i>Primary</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>22</i>	<i>131</i>	<i>154</i>
<i>Supplementary</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>8</i>	<i>43</i>	<i>51</i>
Sub-Total	0	0	1	31	178	210
GRAND TOTALS	1	0	9	82	210	302

30.46%



## Equipment and Procurement

During the calendar year 1973, some 228 units of rental equipment were purchased outright and 569 units were replaced through trades. A total of 284 surplus and wrecked units were sold by sealed bids. At the close of the year 1973 the Division was maintaining 6,261 units consisting of passenger cars, pickups, carryalls, tractors, tractor mowers, motorgraders, and various miscellaneous units.

It required 8,106,645 gallons of gasoline, 485,551 gallons of kerosene, and 1,387,349 gallons of diesel fuel to operate the fleet. In addition, 108,515 gallons of lubricating oil, and 34,925 gallons of hydraulic oil, 38,160 pounds of multi-purpose gear oil, and 35,640 pounds of lithium grease were used. Tires and tubes costing \$348,610.98, tire chains costing \$44,149.71, anti-freeze in the amount of \$12,763.26, and shop equipment, parts and supplies totaling \$2,056,912.65 were contracted for during the year.

<i>Various Types of Asphalt</i>	75,974,000	<i>Gallons</i>
<i>Gravel</i>	1,342,743	<i>Cubic Yards</i>
<i>Stone and Chat</i>	1,474,668	<i>Tons</i>
<i>Paint</i>	577,798	<i>Gallons</i>
<i>Reflectorizing Spheres</i>	2,955,350	<i>Pounds</i>
<i>Sodium Chloride (Winter 1972-73)</i>	61,548	<i>Tons</i>
<i>Calcium Chloride (Winter 1972-73)</i>	5,220	<i>Tons</i>
<i>Treated Sign Posts</i>	29,352	<i>Each</i>
<i>Steel Sign Posts</i>	18,928	<i>Each</i>
<i>Grader and Maintainer Blades</i>	1,127,933	<i>Pounds</i>
<i>Agricultural Seed</i>	102,555	<i>Pounds</i>
<i>Mower Parts</i>	\$ 197,484.86	

The Headquarters Sign Shop produced a total of 114,619 signs and markers of various shapes and sizes amounting to \$1,040,323.97 during the year.

## Legal

During the year 1973, condemnation proceedings were instituted in the various Circuit Courts of the State involving 648 separate tracts of land. Collection was effected from excessive awards in condemnation for \$882,707.88 in final judgments.

There were 18 Appellate Court decisions received during the year in which the Commission was a party.

There were twelve hearings before the Public Service Commission involving highway-railway crossings, and several others involving dump trucks and water rates.

Collection was effected on 2,699 claims for damage by others to Commission property, the total collections being \$401,481.56. Suits were necessarily filed on 68 such claims.

Petitions were filed under the "junkyard law"

in 8 cases with final judgement being rendered in 10 such cases.

The Commission instituted ten suits involving injunctions or Commission property and 20 suits of various kinds were filed against the Commission.

The Supreme Court determined that interest from the State Road Fund must be placed in such fund and not in General Revenue in State Highway Commission v. Spainhower, which will result in recovery of several million dollars for the State Road Fund.

During the year also, in State Highway Commission v. Volpe et al., the federal courts determined finally that withholding of federal aid to the State of Missouri from the highway trust fund was unlawful.



## Maintenance and Traffic

During 1973, the total mileage of roadway maintained by the Division increased by 94 miles to a total of 33,445. This figure includes recreational access, outer roadways, service roads, and maintenance agreement mileages. The major portion of the increased mileage was due to completion of sections of Interstate Routes I-29 and I-44.

Major material items used in the routine maintenance of this mileage included approximately 71,700,000 gallons of asphalt and approximately 2,600,000 cubic yards of aggregate.

Major items of maintenance included 8,257 miles of surface leveling by maintenance forces; 989 miles of surface leveling by contract; 178 miles of seal coat work by contract; 481,500 acres of mowing; 897,100 cubic yards of routine patching; and 11,500 truck loads of trash removal.

During the year, maintenance forces applied an asphalt surface to 25 miles of gravel road in the State highway system. This mileage consisted of 17.2 miles of recreational access routes and 7.8 miles of outer roadway.

Expenditures for snow and ice control for the 1972-73 winter were approximately \$1,500,000 above the previous winter. The increased cost was a result of a more severe winter season state-wide. Approximate quantities of material used were 164,000 cubic yards of aggregate abrasives; 40,000 cubic yards of sand; 66,700 tons of chemicals; and 18,000 cubic yards of cinders.

The annual inspection of all State maintained bridges was performed at various times throughout the year to determine structural adequacy and routine repair needs. The inspection involved approximately 6,340 bridges, including 32 major river crossings, 15 of which are jointly maintained with adjoining states. Several emergency bridge repairs, some extensive in nature, were made as a direct result of collision damage. In addition, routine repairs and painting were performed as part of the Division's normal operation. The inspection of approximately

2,800 culverts was initiated by the Division and conducted by District personnel after Division training.

A dual rest area and tourist information center was completed in Newton County, making a total of 12 rest areas in operation. The construction of a dual rest area was also begun in Webster County. The landscaping of the Ste. Genevieve County rest area was completed and plans have been completed for landscaping rest areas in Cape Girardeau and Newton Counties. One landscape project was completed in Jackson County, and seven maintenance sites were landscaped and/or screened.

A research project for the University of Missouri to find more efficient means of controlling unwanted vegetation is nearing completion. Progress this far has been satisfactory.

Roadside work by contract to combat erosion and control undesirable vegetation included 500 acres of broadleaf weed control, 7,800 acres of Johnsongrass control, and 8,400 acres of right-of-way fertilization. Roadside work by maintenance forces included application of herbicides to 7,200 acres and the seeding of 94,000 pounds of various types of seeds.

The total number of special permits issued by the Main Office and all District offices was 73,062. Of this total, the District offices issued 30,873, or 42%. The total of permit fees collected amounted to \$365,310.00.

Maintenance contracts were let to provide signalization at 6 intersections and 15 additional intersections were signalized by maintenance forces. Modernization by maintenance forces of traffic controlled equipment was accomplished at 20 signalized intersections. A program to expand interconnected traffic signals for traffic progression was also initiated.

Contracts were let to paint 13 radio antenna support towers throughout the state.

Approximately 59,000 accident reports, including 25,000 from cities and counties, were received and analyzed during the year. Some 228 cities participated in providing reports for this purpose. From this information, collision diagrams for detailed studies were prepared for 620 locations. The 120 Program continued and 290 high-accident locations were investigated, with corrective measures implemented at 58 of these locations. Speed studies were conducted at 138 locations and recommendations made for the most desirable speed limits.

As part of our signing modification program, 123 symbolic "Slippery When Wet", 50 "Pedestrian Crossing", 1,529 "Low Clearance", 825 "Four-Way" and "Three-Way" plaques, and 668 "Cattle Crossing" signs were installed in conformance with the requirements of the 1971 MUTCD.

The striping program for the year consisted of a total of 62,591 miles striped. This total includes 36,436 miles of centerline and lane line, 19,411 miles of edgeline, and 6,744 miles of "No Passing Zone" lines. The total mileage is an increase of 4,915 miles over the previous year's total for an increase of approximately 9 percent. To complete this work, a total of 742,855 gallons of paint and 3,714,275 pounds of reflective glass beads were used.

During the year, several schools and short courses were conducted. A two-day traffic signal interconnection and co-ordination seminar was held in February in Jefferson City. A three-day traffic signal short-course for cities and counties was conducted for the Department by the University of Missouri at Rolla in April. A three-day digital timing controller school for Department signal maintenance personnel was held in Jefferson City in December. Also in April, the Department participated in the annual Traffic Conference at the University of Missouri at Columbia. This conference consisted of concurrent short courses covering capacity and accident studies.



The Materials and Research Division determines the quality standards for materials that will provide the maximum performance in highway construction at the most economical cost, conducts field and laboratory tests to insure that all materials meet the specified standards, conducts research investigations on new materials, pavement design, road foundations, asphaltic concrete and Portland cement concrete mixtures.

Roadway foundation investigations are conducted by the Division and included 182 bridge foundation subsurface explorations. Major research projects completed and reported during the year were: "An Investigation of Skid Resistance in Missouri", and "An Investigation of Paints and Glass Beads Used in Traffic Delineation Markings".

Major purchases of testing equipment were: an all-terrain drill to enhance the ability to secure access to difficult drilling sites; a controlled temperature water bath used for bituminous mixture design; an environmental chamber to test the durability of aggregates; a Rockwell Hardness machine to test various materials; and a nuclear moisture-density gauge to evaluate soils and bases for moisture-density determination.

The quantities of various materials inspected and tested for 1973 included:

## Materials and Research

<i>Aggregates</i>	11,920,765	<i>Tons</i>
<i>Reinforcing Steel</i>	19,623	<i>Tons</i>
<i>Culvert Pipe and Arches</i>	308,222	<i>Linear Feet</i>
<i>Joints - Bituminous Fiber and Metal</i>	392,737	<i>Linear Feet</i>
<i>Joints - Rubber</i>	11,162	<i>Square Feet</i>
<i>Guardrail</i>	208,474	<i>Linear Feet</i>
<i>Metal Posts</i>	58,920	<i>Each</i>
<i>Lumber and Square Posts</i>	501,789	<i>Board Feet</i>
<i>Piling and Round Posts</i>	5,420	<i>Linear Feet</i>
<i>Bituminous Material</i>	121,245,981	<i>Gallons</i>
<i>Paint</i>	386,378	<i>Gallons</i>
<i>Cement</i>	471,203	<i>Tons</i>

The grand total of samples tested during the year, including those of an experimental or investigational nature in the Laboratory, amounted to 39,848.

## Personnel

On December 31, 1973, the Department employed 6,699 salaried employees. This represents a net decrease of 45 employees from 1972. Wage employees vary according to seasonal needs and emergency maintenance requirements and are not reflected in the number of salaried employees as presented above.

The Division conducted an on-campus recruiting program at universities in Missouri and neighboring states during both academic semesters.

The Co-Operative Civil Engineer Training Program, conducted by the Highway Department in cooperation with the University of Missouri-Columbia

and Rolla campuses, currently has 25 participants. The program alternates academic and work phases, combining academic studies with progressive and varied job assignments. The program requires five years to complete and has provided a valuable source of trained civil engineer graduates for permanent employment with the Department.

In March, 1973, an on-campus supervisory training program was again provided to many new Department supervisors. The Personnel Division coordinates curriculum and arrangements for the program with the University of Missouri-Columbia faculty. In addition, internal training programs in

(continued)



## PERSONNEL (con't.)

various specialized aspects of supervision were conducted by Personnel Division representatives, as requested or deemed necessary.

Job investigations were conducted throughout the year by the Division when new jobs were established and existing jobs had significant changes in content.

A minority recruitment program is conducted throughout the year. The state-wide program, designed to provide assistance in locating sources for minority applicants, was conducted by Division representatives. Progress reports of minority

employment are regularly reviewed and recruiting assistance provided based upon these results, along with special requests for assistance in filling particular openings.

During the year, Division employees represented the Department at various job career days.

The Division processed 103 retirement requests during 1973. Thirty-seven employees elected early retirement at age 60 years with 20 years service; 39 retired between the ages of 65 and 70, and 27 qualified for disability benefits. The Highway Employees' and Highway Patrol Retirement Program is currently paying benefits to 1,164 Department

retirees.

The Division processed numerous transactions throughout the year related to Departmental services of the credit union, insurance programs, telephone system, and mailing activities. The Division also revised and reissued several personnel management publications during the year.

All personnel transactions were reviewed to ensure conformance to applicable personnel policies. Representatives of the Division served in an advisory capacity to management and line supervisors on personnel transactions involving revisions and interpretation of personnel policy.

## Planning

The Division of Planning develops and evaluates information related to the highway needs of the State of Missouri. This information is developed through studies performed both within the Department and in cooperation with numerous other agencies.

During the past year studies were conducted in such areas as accidents; land use; traffic patterns; and financial and highway needs for the state and regions within the state. The Division also coordinated Missouri's part in the National Transportation Study, the National Highway Needs Study, and the Interstate Cost Estimate Study.

Within the state's urban areas more comprehensive evaluations of transportation needs were conducted on a continuing basis. This was a continuing process involving persons from the local to the national level.

Among the numerous reports prepared were the

1974 Five-Year-Right-of-Way and Construction Program; traffic reports for the state and several selected cities; and the results of several specialized studies.

Another function of the Division is compiling and updating various maps. The past year's effort was

concentrated on the official Missouri State Highway Map; fourteen county maps; seventy-one city maps; and a series of special traffic flow maps.

As of December 31, 1973, the state highway system of Missouri involved 32,011 miles, shown by system and surface type in the accompanying table.

### STATUS OF THE STATE HIGHWAY SYSTEM AS OF DECEMBER 31, 1973

SYSTEM	ROAD MILES
<i>Interstate</i>	985
<i>Primary</i>	6,800
<i>Supplementary</i>	24,226
TOTAL MILES	32,011

### MILEAGE BY TYPES

TYPE	ROAD MILES
<i>Concrete</i>	3,103
<i>High Type Bituminous</i>	3,766
<i>Low Type Bituminous</i>	24,948
<i>Oiled Earth</i>	164
<i>Granular</i>	30
TOTAL MILES	32,011



## Public Information

The current trend toward public interest and involvement in highway matters continued to expand during the year. As a result, the Division increased its dissemination of information on almost every facet of highway planning, building and operation.

A continuous flow of information via news releases, radio programs, magazines, leaflets, brochures and television productions was maintained throughout the year. Public information personnel were in constant touch with the State's news media, to which extensive information was distributed both routinely and on special request.

During the year the Division prepared and distributed over 400 news releases. In addition, numerous special articles, feature stories and photographs were supplied to magazines, newspapers and other publications.

The Division also published and distributed "Missouri Highway News" (8,500 copies per month) and a monthly road condition report. During inclement weather additional road reports were

prepared and recorded twice daily on "Code-A-Phone" for public use.

Fifty-two weekly radio programs were produced and distributed to some 100 broadcasters throughout the State. Twelve filmed news segments were also produced and distributed to television stations on a state-wide basis.

Twelve individual speeches were prepared for presentation by Highway Department officials from the Headquarters office. Several others were prepared for District personnel.

The Division also prepared and published the Highway Commission's Annual Report and Biennial Report, the latter produced in a hard cover edition.

A clipping service was maintained to keep Commissioners and Department officials informed on newspaper comment and coverage of highway matters. Daily compilations were made from all newspapers in the state, and information was also collected to provide data on traffic study needs, to

supply financial data from the county and city level for Planning Division studies, and to record details of traffic fatalities.

The annual Highway Gardens exhibit at the Missouri State Fair was seen by more than 300,000 persons, and additional exhibits were prepared on request from the Districts.

Approximately 250 mail and telephone requests per month were answered by Division personnel regarding maps, road information, routings, educational materials and films.

The Division was called on frequently to assist in arrangements for dedicatory ceremonies and formal openings of major road and bridge projects. The annual service award program for employees with 25 to 45 years of service was also conducted.

The Division also supervised the distribution of 1,100,000 highway maps during the year, and the Highway Department's technical library became a part of the Division.

## Right-of-Way

During 1973, the cost of right-of-way acquired for highway construction totaled \$22,871,789.00.

The Division acquired 1,910 parcels -- 1,432 by negotiated settlement and 478 by condemnation, or 75 per cent by negotiation and 25 per cent by condemnation.

Payments totaling \$2,213,599.70 were made in 1973 under the Relocation Assistance and Payment Program to assist displaced families, businesses and farm operations in relocating. During the year 1,866

relocation claims were processed and paid.

During the year, the Right-of-Way Division obtained appraisals for 1,957 parcels. Two separate appraisals were prepared for 24 per cent of the parcels involved, making a total of 2,423 appraisals produced. An average of 163 parcels was appraised each month, which required an average production of 202 separate appraisals per month.

Receipts from the sale of improvements located on right-of-way acquired for highway construction

and from the sale of excess property totaled \$145,547.85.

Rental of advance acquisitions and excess property resulted in an income of \$92,957.50. An additional \$53,675.76 was derived from miscellaneous sources.

Collections from contracts with political subdivisions for their participation in right-of-way costs amounted to \$53,498.23.



## Surveys and Plans

During calendar year 1973, construction projects were put under contract totaling \$201,552,050.69.

These contracts consisted of 194 projects totaling approximately 772 miles on the Interstate, Primary and Secondary Systems.

An additional \$62,500.00 was expended for oiling projects by state forces, and \$8,842,370.43 was put under contract for maintenance work.

There were 11 bid lettings during the year with

an average of 3.49 bids received per job.

There were 37 rejections of bids in 1973. The jobs awarded averaged 2.5 per cent under project estimates for the year.

The 1973 Average Composite Cost Index (1967 = 100 Base) increased to 170.2, which is an increase of 21.4 per cent over the 148.8 average of 1972. The unusually large increase in the Composite Index is due to the fuel shortage in the latter part of the calendar year of 1973 and various other construction material shortages.

## 1973 Report

	Awards	Miles	Projects
Interstate System	\$ 68,810,533.31	64.975	30
Primary System	\$ 108,986,937.93	497.958	100
Supplementary System	<u>\$ 23,754,579.45</u>	<u>209.865</u>	<u>64</u>
<b>Total: Construction by Contract</b>	<b>\$ 201,552,050.69</b>	<b>772.798</b>	<b>194</b>
Oiling Program by State Forces	\$ 62,500.00	25.000	10
<b>Total: Construction</b>	<b>\$ 201,614,550.69</b>	<b>797.798</b>	<b>204</b>
Maintenance Work by Contract	\$ 8,842,370.43	1132.452	124
Engineering Awards by Contract	\$ 985,072.00		



# CONSTRUCTION

## AWARDS

### CONSTRUCTION AWARDS

1973 Calendar Year

(R.W. Costs - Not Included)

System	No. Of Projects	Length Miles	Const. Cost (+10%)	Non-Contr. Cost (+10%)	Total
Interstate-* Urban	16	15.311	26,367,569.44	797,627.90	27,165,197.34
Interstate-Rural	14	49.664	41,275,641.89	369,694.08	41,645,335.97
Interstate-Total	30	64.975	67,643,211.33	1,167,321.98	68,810,533.31
Primary-* Urban	20	36.686	10,973,628.63	550,118.29	11,523,746.92
Primary-Rural	80	461.272	96,655,358.16	807,832.85	97,463,191.01
Primary-Total	100	497.958	107,628,986.79	1,357,951.14	108,986,937.93
Supplementary-* Urban	10	15.752	3,830,055.70	223,385.33	4,053,441.03
Supplementary-Rural	54	194.113	19,425,286.54	275,851.88	19,701,138.42
Supplementary-Total	64	209.865	23,255,342.24	499,237.21	23,754,579.45
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GRAND TOTAL:	194	772.798	198,527,540.36	3,024,510.33	201,552,050.69

### ALTERNATE ANALYSIS

Interstate-* Urban	16	15.311	26,367,569.44	797,627.90	27,165,197.34
Primary-* Urban	20	36.686	10,973,628.63	550,118.29	11,523,746.92
Supplementary-* Urban	10	15.752	3,830,055.70	223,385.33	4,053,441.03
Total-Urban	46	67.749	41,171,253.77	1,571,131.52	42,742,385.29
Interstate-Rural	14	49.664	41,275,641.89	369,694.08	41,645,335.97
Primary-Rural	80	461.272	96,655,358.16	807,832.85	97,463,191.01
Supplementary-Rural	54	194.113	19,425,286.54	275,851.88	19,701,138.42
Total-Rural	148	705.049	157,356,286.59	1,453,378.81	158,809,665.40
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GRAND TOTAL:	194	772.798	198,527,540.36	3,024,510.33	201,552,050.69

\*Work located inside designated Urban Areas.

1973 Calendar Year







MoDOT Library



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